

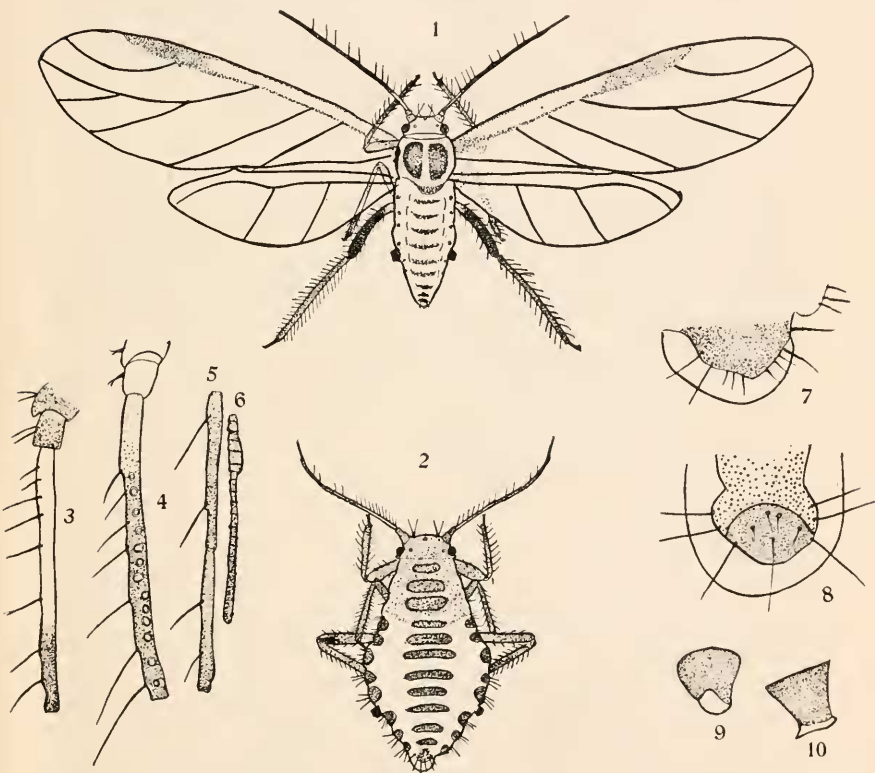
New Aphids from California (Hem., Hom.).

By G. O. SHINJI, Berkeley, California.

(Plate VII)

Thomasia californiensis n. sp.

Alate viviparous female.—General color orange to salmon-red. Length of body excluding style, 2.6 mm.; greatest width of abdomen, 1.2 mm. Wing expansion, 5 mm. Head broader than long, dusky. Eyes red, prominent. Beak short, dusky, not reaching the second coxa as in apterous forms. Antenna dusky except yellowish basal part of



Figs. 1-10, *Thomasia californiensis* n. sp. 1, winged viviparous female; 2, apterous viviparous female; 3, first, second and third joints of the antenna of apterous viviparous female; 4, 5, 6, the antennal joints of the adult alate viviparous female; 7, cauda of the apterous form; 8, cauda of the alate individual; 9, cornicle of the alate female; 10, cauda of the apterous viviparous female.

III, provided with rather few, but very long, bristle-like hairs; III with about 18 circular sensoria. Length of antennal joints: III, .6 mm.; IV, .5 mm.; V, .3 mm.; VI, .2 mm.; spur or filament, .4 mm. Prothorax wider than long, dusky. Meso- and metathorax also dusky. Middle and hind legs black except orange basal one-third of the femur. Basal one-half of femora and tibia of the front leg orange, the remaining part dusky. Length of femora: front, 1.3 mm.; middle, 1.1 mm.; hind, 1.7 mm. Abdomen of red-salmon color, with dark dorsal bands. Hairy throughout body. Cornicle black, wider at base than at apex. Style black with a few long hairs.

Apterous viviparous female.—General color salmon-red to orange. Length of body, 2.8 mm. Greatest width of abdomen, 1.6 mm. Head the color of body, broader than long. Beak beyond the second coxal cavity, tip dusky, remaining part salmon-red. Antenna shorter than body; article III, salmon-red, provided with bristle-like hairs on a row facing outside; IV and V, mostly dusky, but with a smaller number of bristles each; VI, including filament, dusky. Length of antennal joints: III, .7 mm.; IV, .4 mm.; V, .3 mm.; VI, .2 mm.; filament, .4 mm. Prothorax slightly dusky, wider than broad. Meso- and metathorax also slightly dusky. Abdomen salmon-red, with a black, transverse band on each of the segments. Cornicles black, base decidedly wider than at the apex. Style dusky, somewhat rounded and provided with hairs. Legs slightly dusky, except at the joints.

Host plant—*Acer macrophylla*.

Locality—University of California campus, Berkeley, California.

Date of Collection—April 5, 1915.

Types at the University of California.

Myzocalis essigi n. sp.

Alate viviparous female. General color pale. Length of body, exclusive of style, 1.65 mm. Greatest width of abdomen .65 mm. Wing expansion 2.3 mm. Head broader than long, pale, width between the eyes .25 mm. Tip of beak slightly dusky. Antenna pale except at the joints of III, IV, V and most of VI including spur which are dusky. Length of antennal joints: III .6 mm, IV .4 mm, V .3 mm, VI .2 mm, filament .19 mm. Article III with 6 to 7 circular sensoria. Prothorax pale, .5 mm. long and .32 mm. wide. Mesothorax pale, width .55 mm. Metathorax also pale. Legs pale except dusky tarsi with claws. Abdomen pale with 4 large, long, blunt tubercles on first and second segments. Cornicles black, somewhat constricted near the middle. Style distinctly constricted, pale. Anal plate deeply and beautifully bifurcated, pale. Wings hyaline.

Nymphs are beautifully shaded with green and pale.

Locality—University of California campus, Berkeley, California. Date of collection, April 5, 1915, and also June 15, 1916. Host plant—*Quercus* sp.

Note.—Absence of any dusky spots about the thorax and dusky color of the cornicle distinguish this species from its relatives, such as *M. discolor*, *M. bellus*, *M. quercifolia* and others.

This species is named after Professor Essig, who has encouraged and in many ways helped the writer in the study of this group of insects.

***Myzocalis woodworthi* n. sp.** (Plate VII).

Alate viviparous female. General color light green. Length of body excluding cauda 1.2 mm. Greatest width of abdomen .5 mm. Wing expansion 3.1 mm. Head broader than long, width, including eyes, .35 mm., pale. Tip of beak slightly dusky. Antenna dusky. Length of articles: III .55 mm., IV .4 mm., V .3 mm., VI .2 mm., spur, 2 mm. Number of sensoria on antennal joints: III, 28; IV, 14; V, 12; VI, 4. Prothorax nearly as wide as head, width, .5 mm., length, .3 mm., pale. Mesothorax and metathorax pale with muscle lobes amber. Mesothorax with a pair of large spines. Width of mesothorax .4 mm. Femora and tibia pale, tarsi dusky. Abdomen pale, with dusky dorsal bands. Bands or markings of this species fade somewhat in mounted specimens. Dorsal tubercles on the first and second abdominal segments present as in *M. essigi*. Cornicles dusky, about .13 mm. long. Style constricted at base. Anal plate distinctly and deeply bifurcated.

Nymphs with checkered dorsal marking on the abdomen as in *M. essigi*, *M. maurei* and *M. passani*.

Locality—University of California campus, Berkeley, California. Date of collection—June 20, 1916. Host plant—*Quercus* sp.

This beautiful aphid is named in honor of Professor Woodworth, of the University of California, with whom the writer has enjoyed studying for more than eight college years.

What seems to me *M. hyalinus* Mon. has been recently collected by the writer in this locality, although the spur is almost subequal to the base; it may be a local variation. The writer has never had an opportunity of seeing any true form of *M. hyalinus*. This species agrees with Monell's description in several points.

Myzocalis hyalinus Mon. (?).

Alate viviparous female. General color pale. Length of body exclusive of style 3.2 mm. Wing expansion 3.5 mm. Head pale, width between the eyes .3 mm. Eyes prominent, black. Beak short, tip slightly dusky and lying between the first and the second coxa. Antenna pale except dusky rings near the joints of III, IV, V and VI including spur. Article III provided with about 6 large circular sensoria near the base. Prothorax pale, smallest width .4 mm., greatest width, which is nearer to mesothorax, .7 mm., length .4 mm. Mesothorax pale, with muscle lobes orange; width, .95 mm. Legs with dusky spot at the base of tibia, tarsi dusky, rest pale. Abdomen pale, very much inflated. Cornicles pale, slightly longer than wide at base, somewhat constricted at middle, length about .1 mm. Style pale, tip rounded, with spines about .25 mm. long. Anal plate pale, deeply bilobed, provided with long spines.

Nymphs.—As far as the writer's observations go, nymphs of this species were not shaded with green as in the case of related species.

Locality—University of California campus, Berkeley, California. Latest date of collection—July 28, 1916. Host—*Quercus* sp.

The writer has had opportunities to examine several hundreds of Aphid species, but never observed such a numerical variation as presented in this species. The following measurements obtained with specimens collected on the same day at one and the same niche will illustrate this statement:

Numerical variation in M. hyalinus Mon. in millimeters.

Specimen	No. 1	No. 2	No. 3	No. 4
Length of body including style....	3.7	2.9	2.4	1.75
Width of abdomen	1.4	1.3	.9	.8
Wing expansion	3.5	3.6	3.2	3.5
Length of antennal joint III.....	.95	.9	1.	.8
Length of antennal joint IV.....	.7	.9	.8	.6
Length of antennal joint V.....	.6	.75	.6	.5
Length of antennal joint VI.....	.27	.35	.25	.29
Filament27	.40	.25	.23

Thus in my specimen the spur is not absolutely longer than the base. I am not as yet sure whether this is true *hyalinus* Monell or not.

EXPLANATION OF PLATE VII.

Figs. 11 to 18, *Myzocalis woodworthi* n. sp. 11, Alate viviparous female; 12, nymph; 13 to 16, the antennal articles of the alate viviparous female; 17, cauda, 18, cornicle of the alate viviparous female.